What Is Claimed Is:

1. A sensor (1) for determining the concentration of particles in gases, in particular of soot particles, having at least one substrate element (5), and a measuring area (12) between at least one first (10) and one second (15) measuring electrode,
wherein the two measuring electrodes (10, 15) are configured in such a way that by applying a voltage between the measuring electrodes (10, 15) an asymmetric electric field is formed on the measuring area (12).

2. The sensor (1) as recited in Claim 1,
wherein the sides (30, 35) of the first (10) and second (15) measuring electrodes, facing one another, are not parallel to one another.

3. The sensor (1) as recited in Claim 1 or 2,
wherein the distance between the first (10) and second (15) measuring electrodes increases or decreases continuously along the electrode.

4. The sensor (1) as recited in Claim 1,
wherein the first (10) and second (15) measuring electrode together form an interdigital comb structure, at least one measuring electrode (10, 15) having finger electrodes (40) having varying widths.

5. The sensor (1) as recited in one of Claims 1 through 4,
wherein at least one measuring electrode (10, 15) or the finger electrodes (40) of at least one measuring electrode (10, 15) has the form of a triangle.

6. The sensor (1) as recited in one of Claims 1 through 5,
wherein at least one measuring electrode (10, 15) has a structure (45) along the side (30, 35) facing the other

measuring electrode (15, 10) or along the finger electrodes (40).

7. The sensor (1) as recited in Claim 6, wherein the structure (45) is formed by regularly arranged tips, squares, dots, or other geometric shapes.

8. The sensor (1) as recited in one of Claims 1 through 7, wherein at least one central electrode is provided between the first (10) and second (15) measuring electrodes.